

SAMSUNG

GSM TELEPHONE SGH-D410

SERVICE *Manual*

GSM TELEPHONE



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1. SGH-D410 Specification

1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

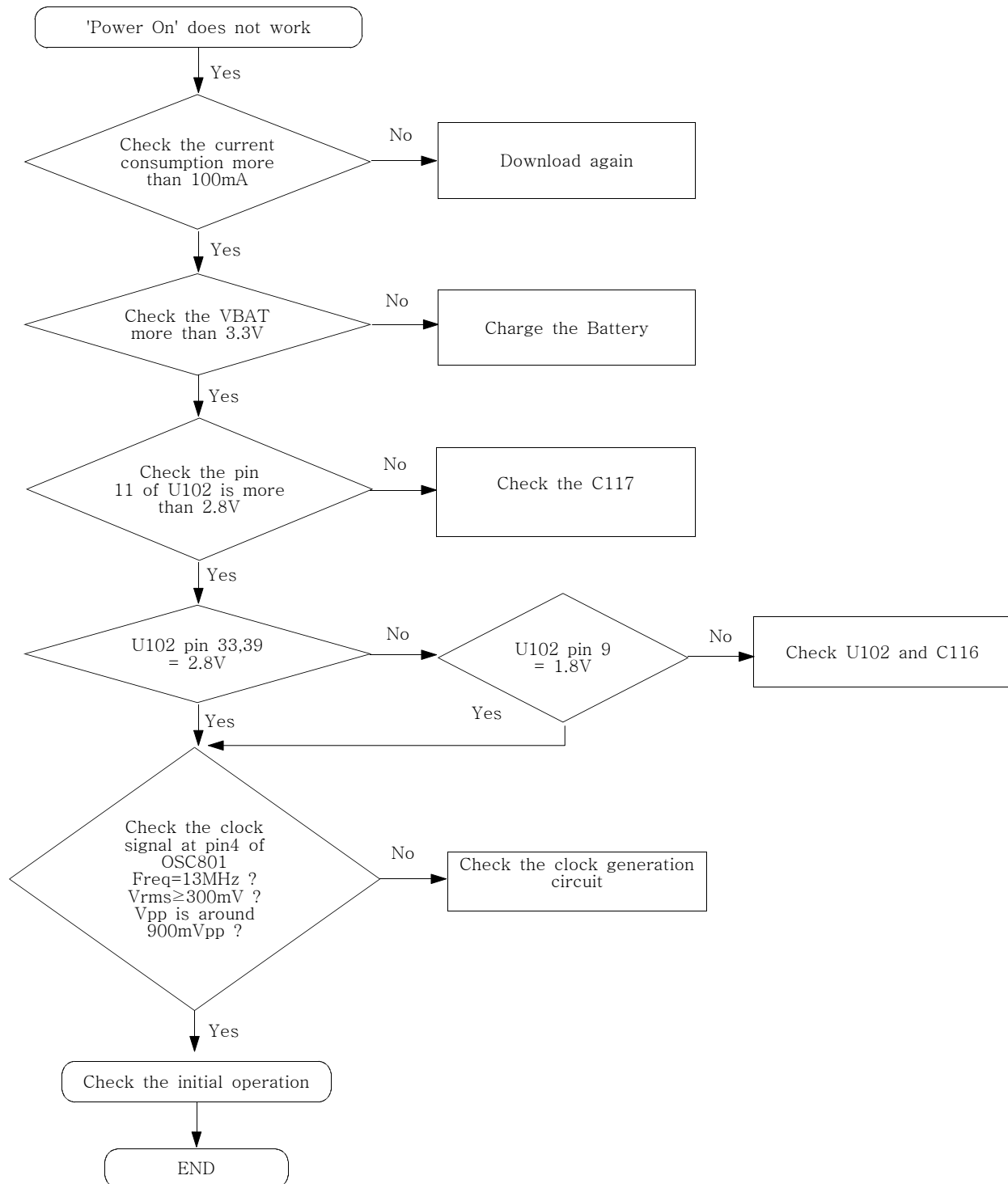
2. GSM TX power class

TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	DCS1800
5	$33 \pm 2\text{dBm}$	0	$30 \pm 3\text{dBm}$	0	$30 \pm 3\text{dBm}$
6	$31 \pm 2\text{dBm}$	1	$28 \pm 3\text{dBm}$	1	$28 \pm 3\text{dBm}$
7	$29 \pm 2\text{dBm}$	2	$26 \pm 3\text{dBm}$	2	$26 \pm 3\text{dBm}$
8	$27 \pm 2\text{dBm}$	3	$24 \pm 3\text{dBm}$	3	$24 \pm 3\text{dBm}$
9	$25 \pm 2\text{dBm}$	4	$22 \pm 3\text{dBm}$	4	$22 \pm 3\text{dBm}$
10	$23 \pm 2\text{dBm}$	5	$20 \pm 3\text{dBm}$	5	$20 \pm 3\text{dBm}$
11	$21 \pm 2\text{dBm}$	6	$18 \pm 3\text{dBm}$	6	$18 \pm 3\text{dBm}$
12	$19 \pm 2\text{dBm}$	7	$16 \pm 3\text{dBm}$	7	$16 \pm 3\text{dBm}$
13	$17 \pm 2\text{dBm}$	8	$14 \pm 3\text{dBm}$	8	$14 \pm 3\text{dBm}$
14	$15 \pm 2\text{dBm}$	9	$12 \pm 4\text{dBm}$	9	$12 \pm 4\text{dBm}$
15	$13 \pm 2\text{dBm}$	10	$10 \pm 4\text{dBm}$	10	$10 \pm 4\text{dBm}$
16	$11 \pm 2\text{dBm}$	11	$8 \pm 4\text{dBm}$	11	$8 \pm 4\text{dBm}$
17	$9 \pm 2\text{dBm}$	12	$6 \pm 4\text{dBm}$	12	$6 \pm 4\text{dBm}$
18	$7 \pm 2\text{dBm}$	13	$4 \pm 4\text{dBm}$	13	$4 \pm 4\text{dBm}$
19	$5 \pm 2\text{dBm}$	14	$2 \pm 5\text{dBm}$	14	$2 \pm 5\text{dBm}$
		15	$0 \pm 5\text{dBm}$	15	$0 \pm 5\text{dBm}$

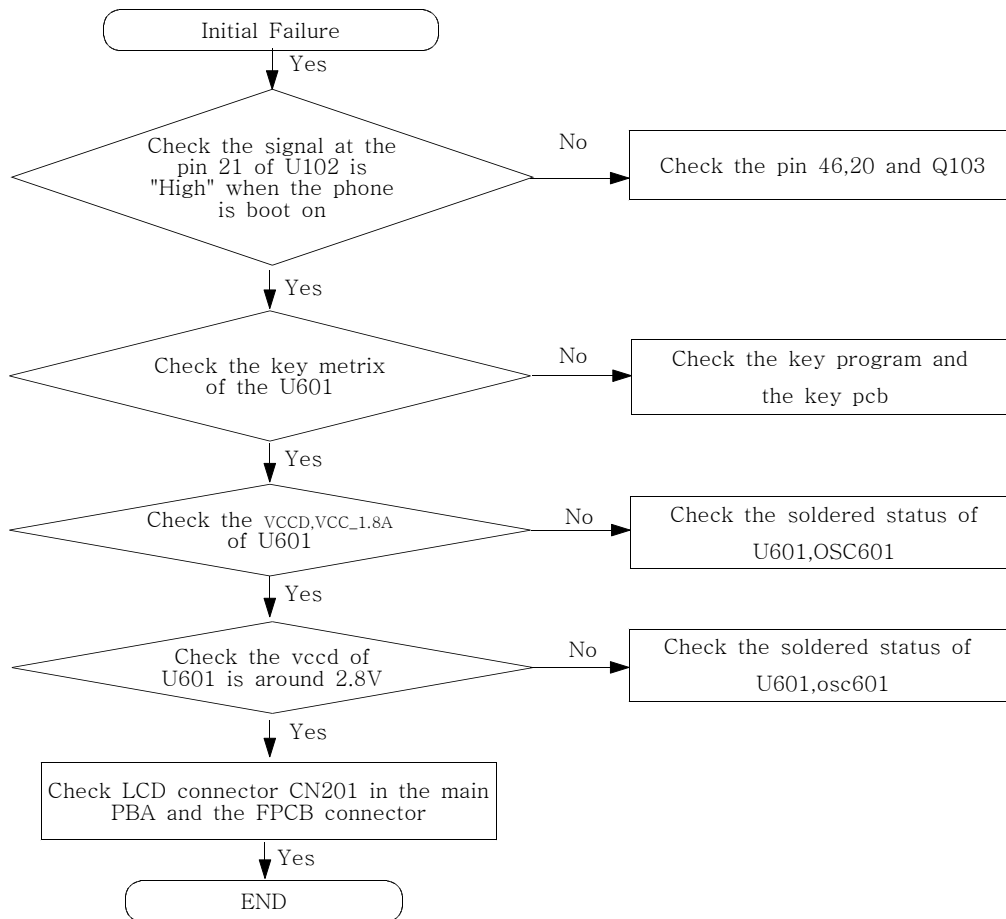
2. SGH-D410 Flow Chart of Troubleshooting

1. Baseband

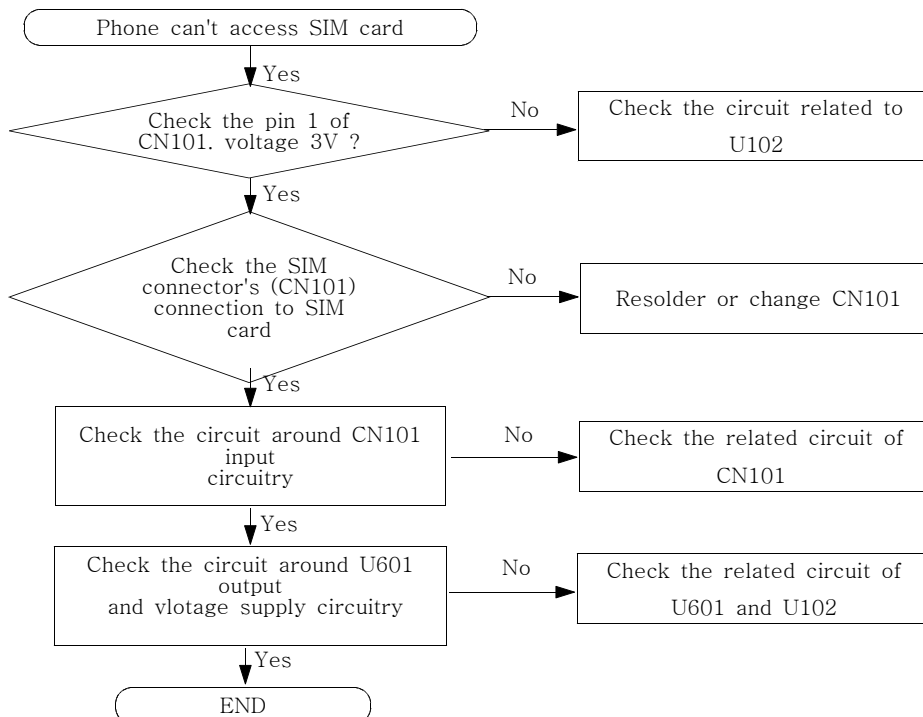
1. Power ON



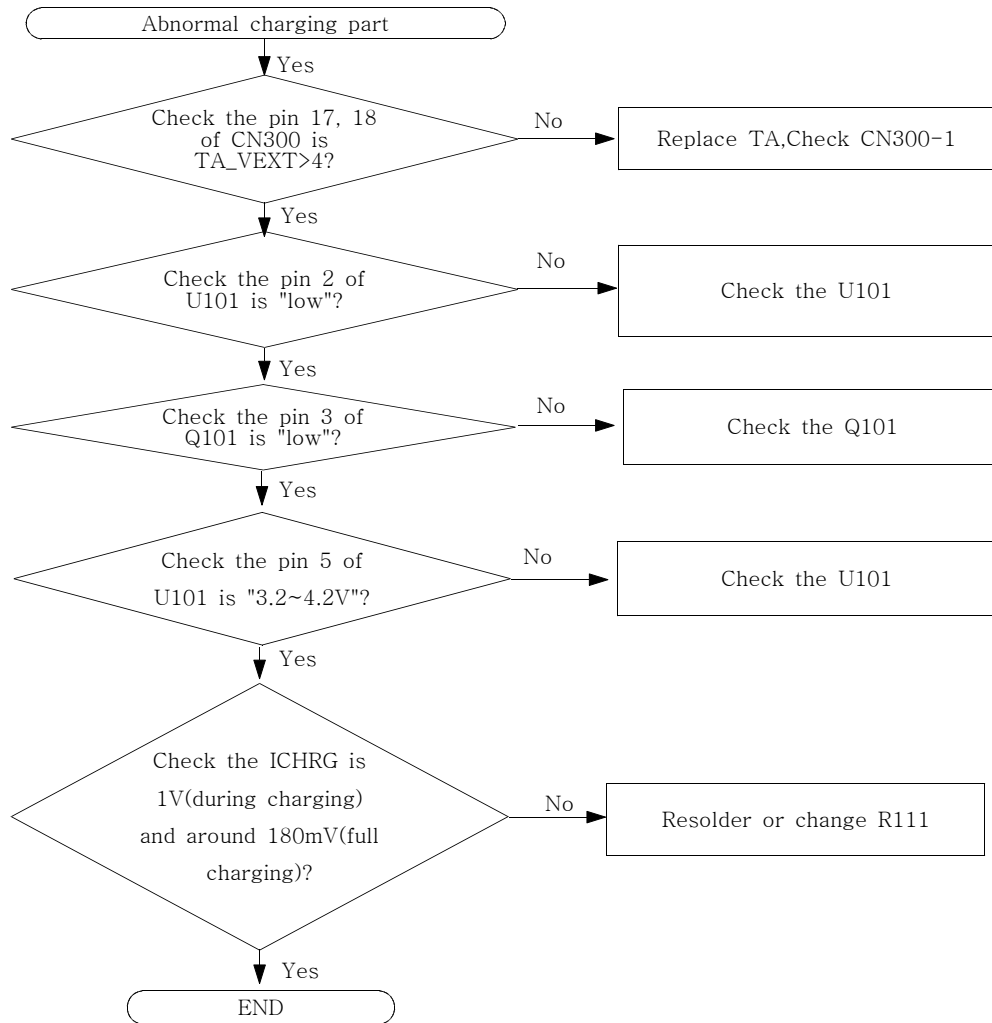
2. Initial

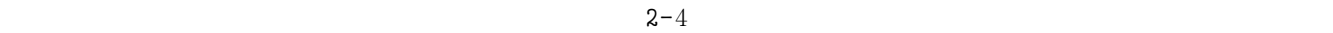


3. Sim Part

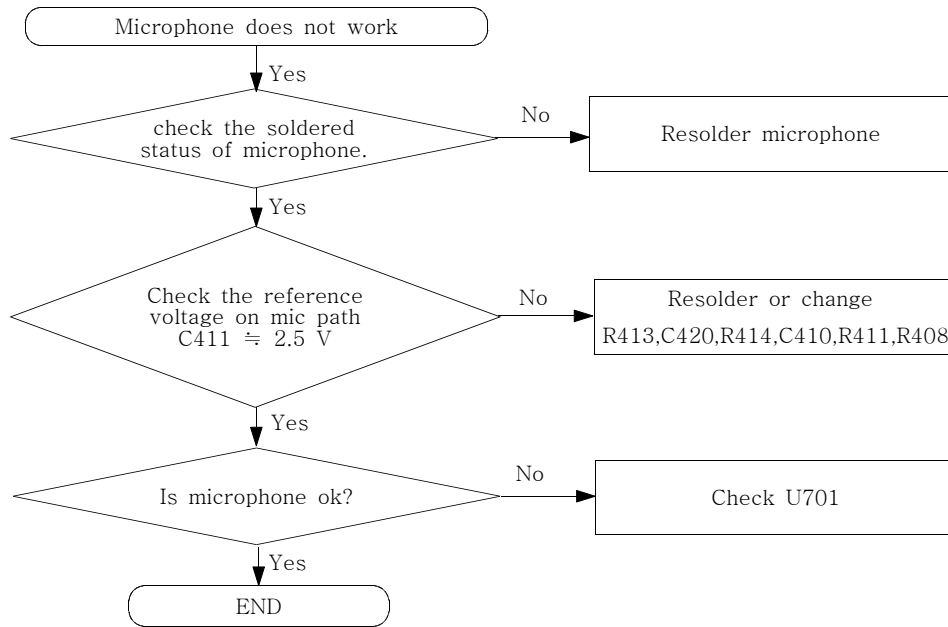


4. Charging Part

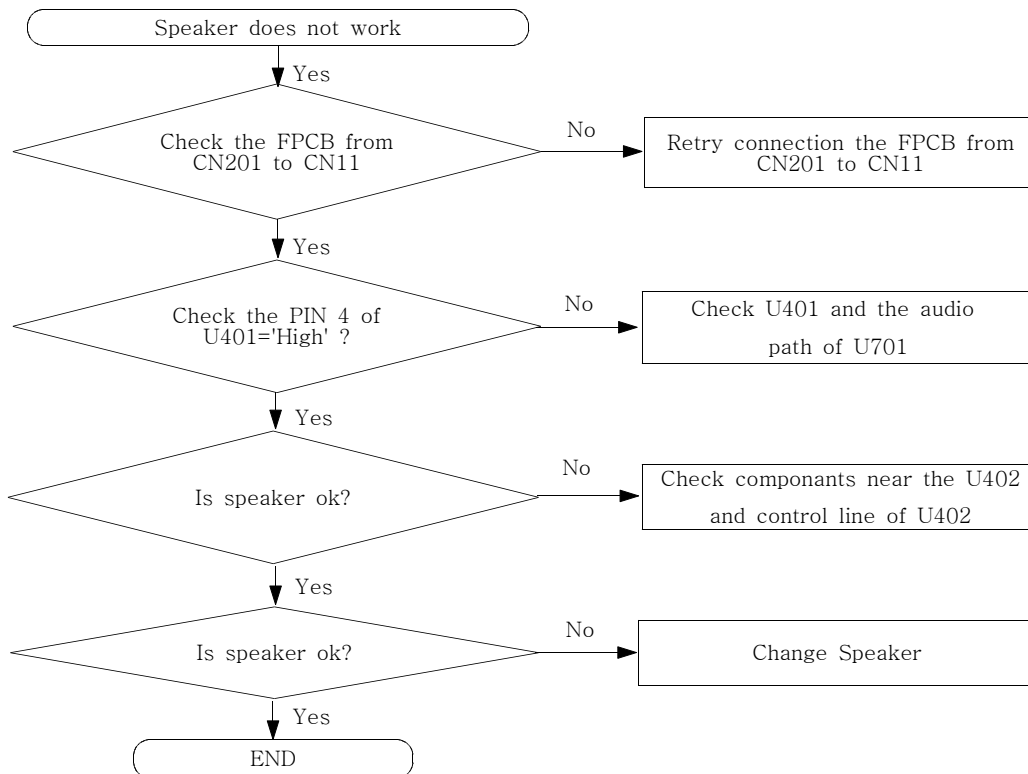




5. Microphone Part

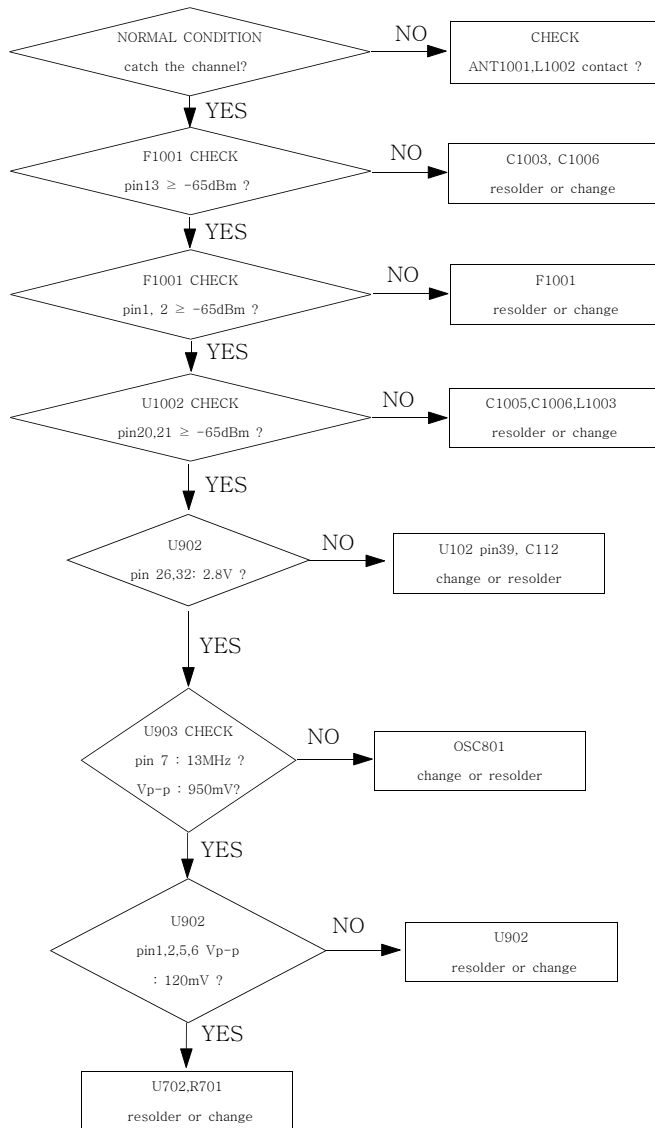


6. Speaker Part



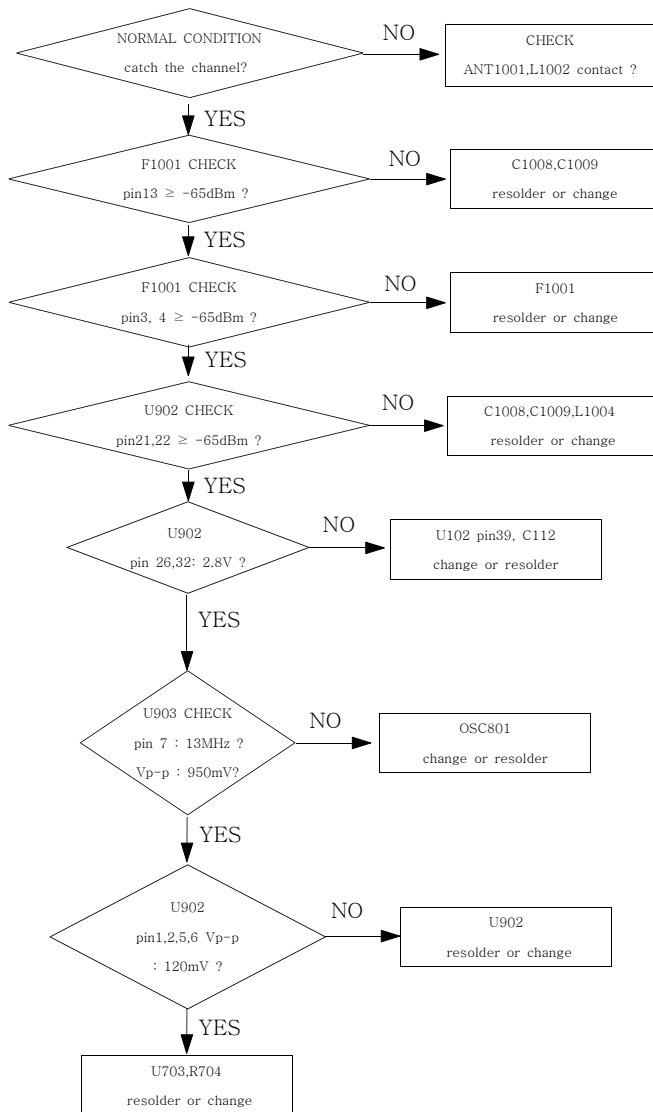
2.RF

1. EGSM RX



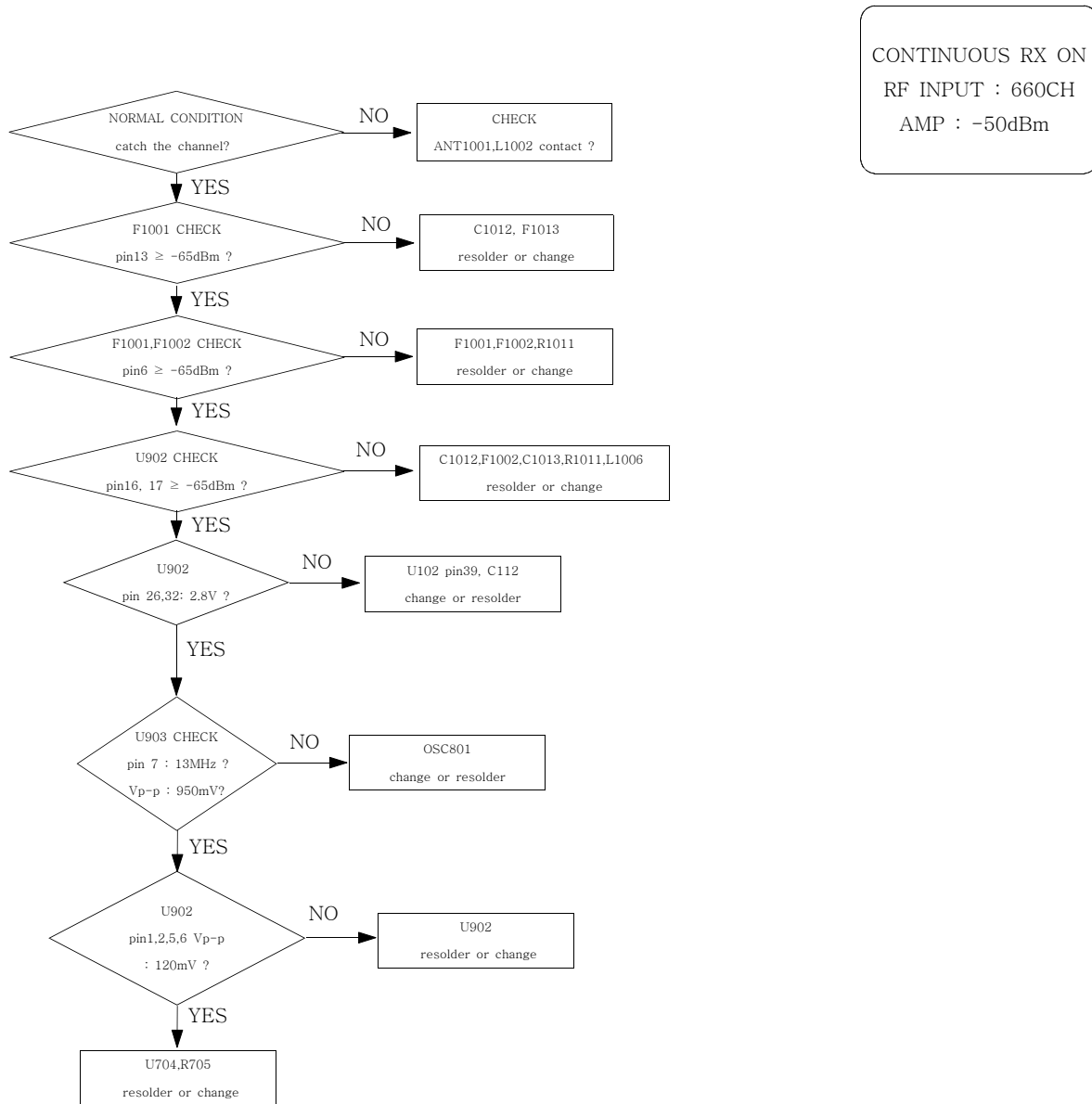
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm

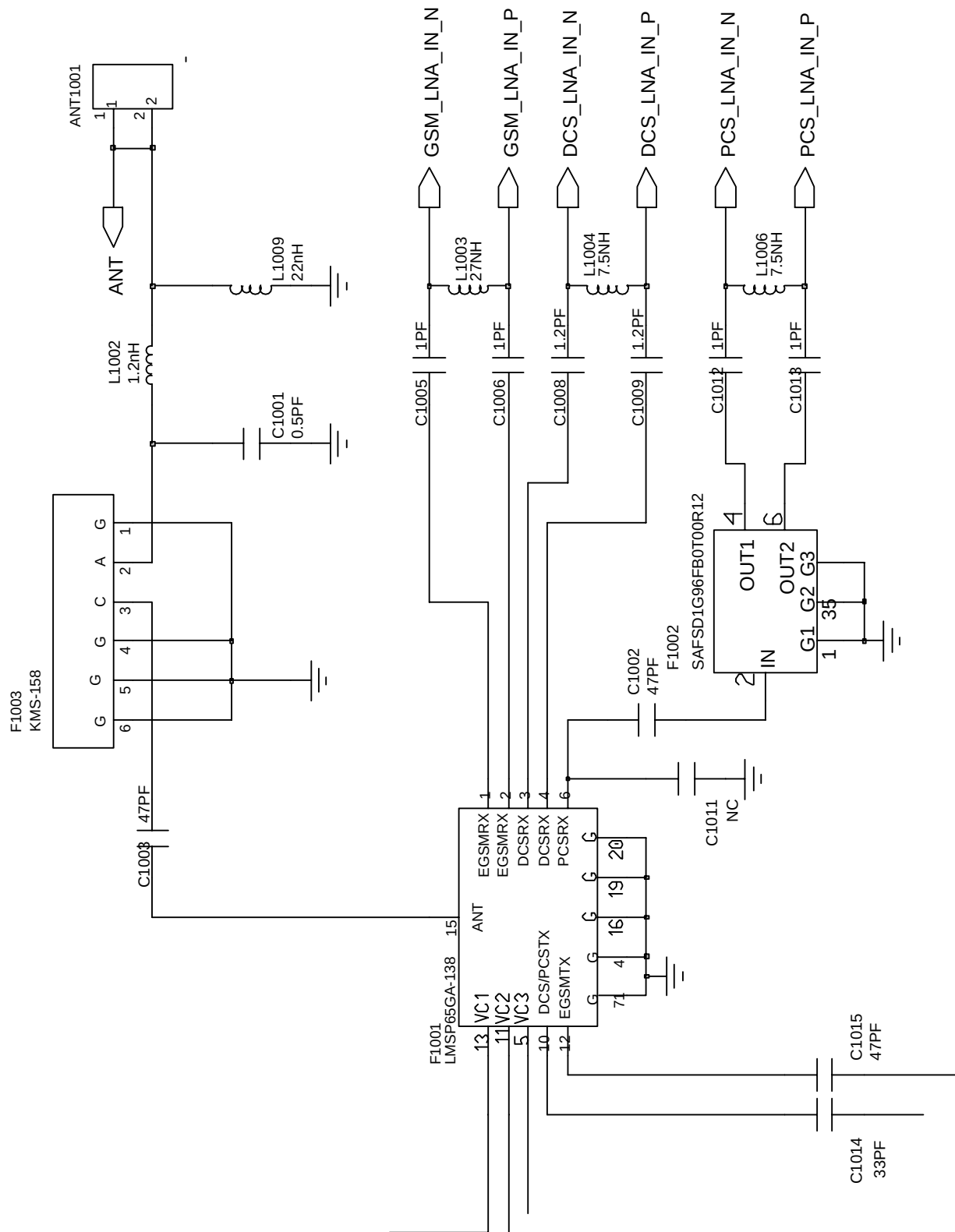
2. DCS RX



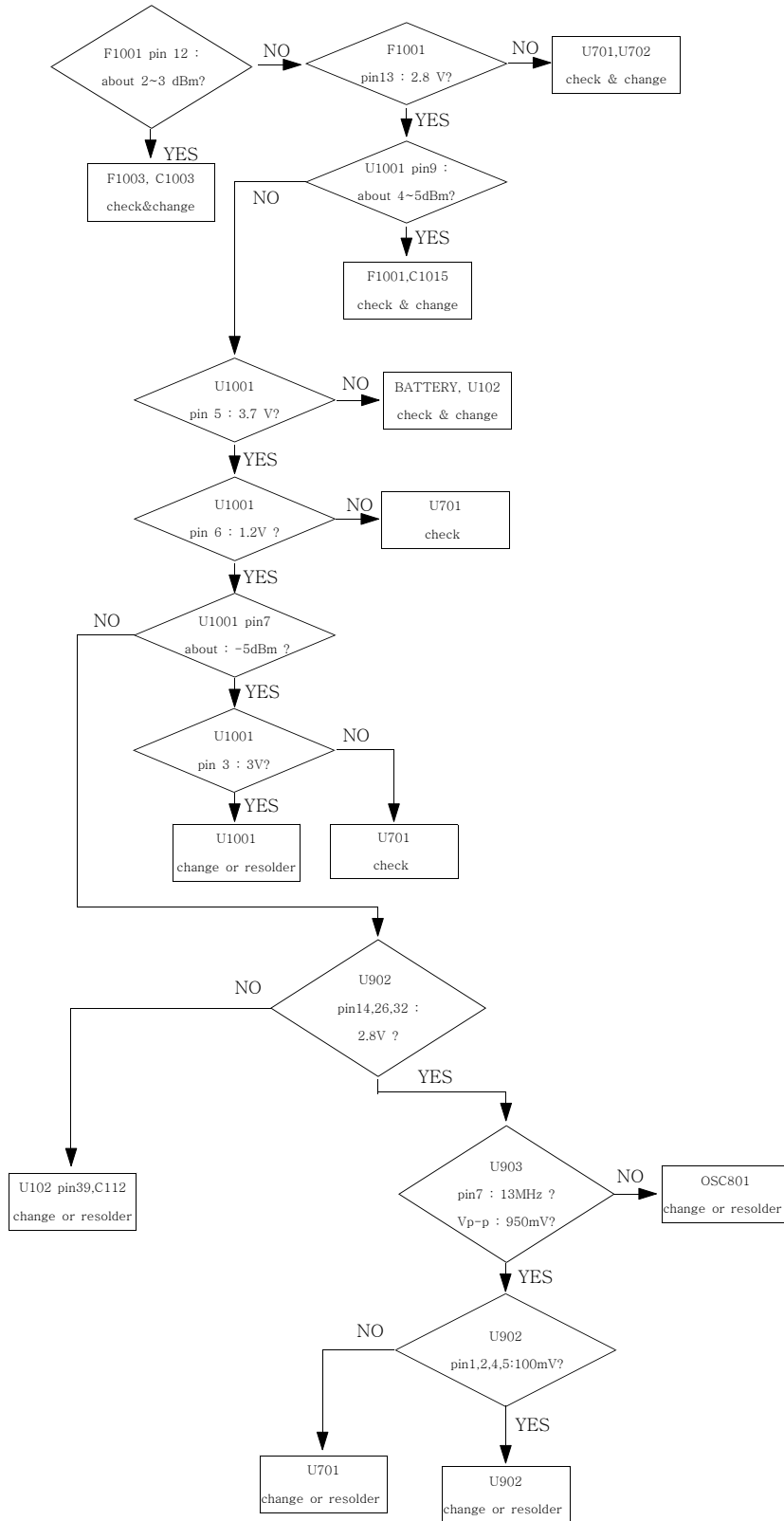
CONTINUOUS RX ON
RF INPUT : 698CH
AMP : -50dBm

3. PCS RX





4. EGSM TX



CONTINUS TX ON CONDITION

TX POWER DAC: 550 CODE APPLIED

CH : 62

RBW : 100KHz

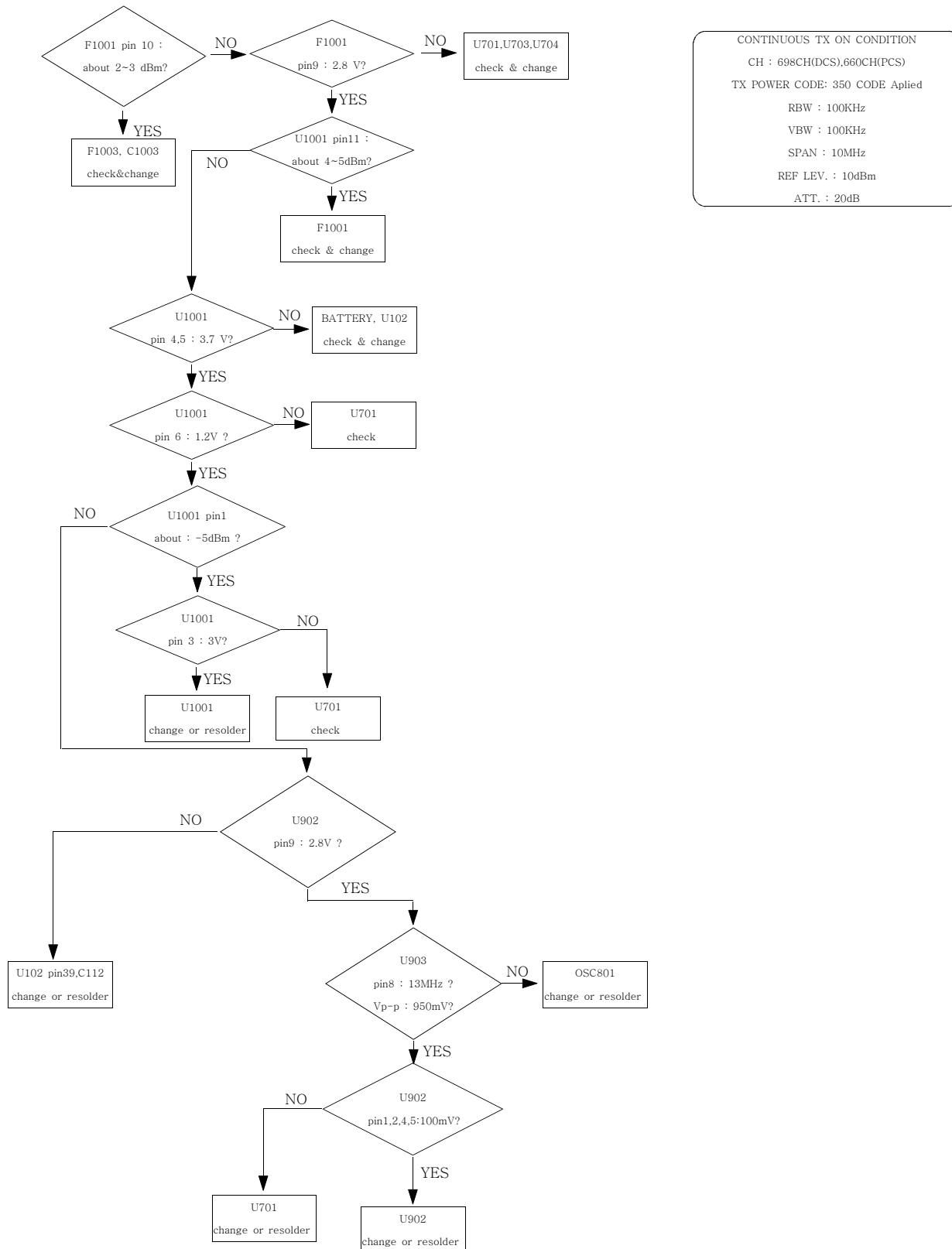
VBW : 100KHz

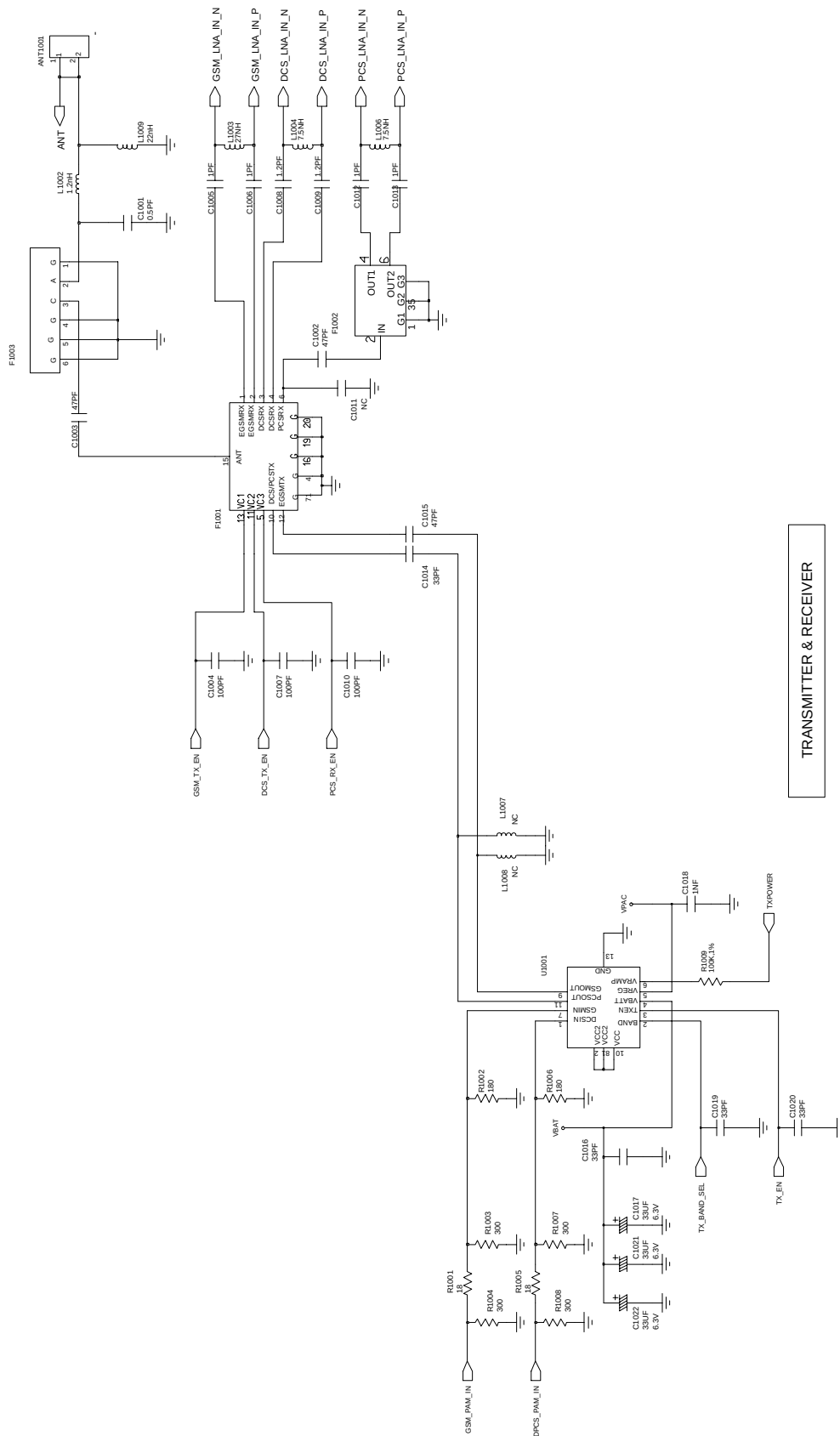
SPAN : 10MHz

REF LEV. : 10dBm

ATT. : 20dB

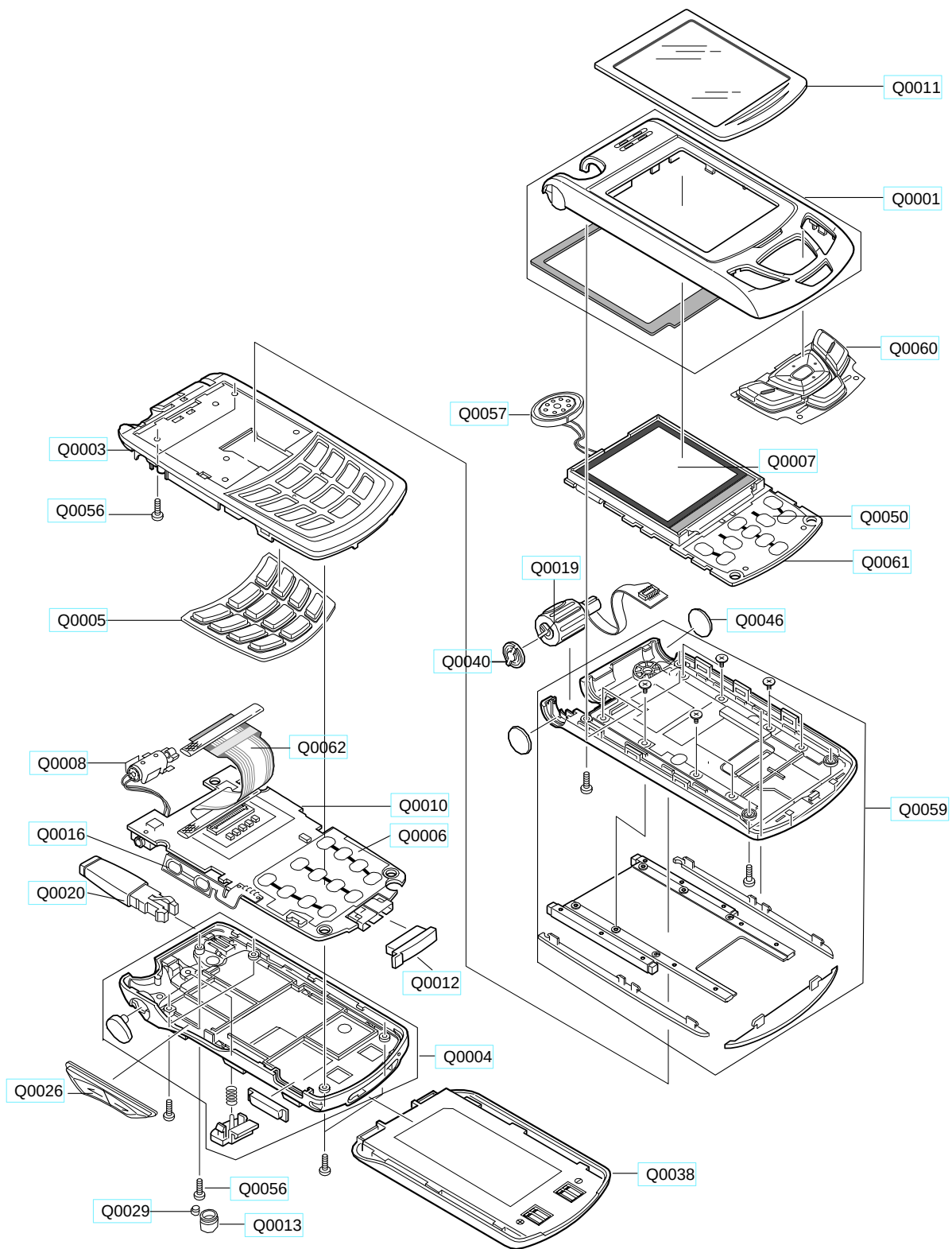
5. DCS/PCS TX





3. SGH-D410 Exploded View and its Parts list

1. Cellular phone Exploded View



2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
Q0001		MEC-SLIDER UPPER ASS'Y	GH75-03167A	
Q0059		MEC-HINGE ASS'Y	GH75-04143A	
Q0003		MEC-FRONT COVER	GH75-03028A	
Q0004		MEC-REAR COVER	GH75-03029A	
Q0005		MEC 3X4 KEYPAD	GH75-03033A	
Q0006		UNIT-METAL DOME	GH59-00950A	
Q0007		LCD	GH07-00416A	
Q0008		MOTOR DC	GH31-00052A	
Q0010		PBA MAIN	GH92-01550A	
Q0011		MEC MAIN WINDOW ASS'Y	GH75-03616A	
Q0012		RMO IF COVER	GH73-02707A	
Q0013		PMO-RF COVER	GH72-11089A	
Q0014		MICROPHONE-ASSY	GH30-00078A	
Q0016		UNIT SIDE KEY FPCB	GH59-00948A	
Q0019		UNIT CAMERA	GH59-00870A	
Q0020		ANTENNA	GH42-00338A	
Q0026		MEC VOLUME KEY	GH75-03035A	
Q0029		RMO SCREW HOLE CAP	GH73-02780A	
Q0038		BATTERY	GH43-00967A	
Q0040		MEC CAMERA HINGE	GH75-03936A	
Q0046		NPR SIDE COVER	GH71-01814A	
Q0050		UNIT LCD METAL DOME	GH59-00949A	
Q0056		SCREW-MACHINE	6001-001478	
Q0057		SPEAKER;0.5W,8ohm	3001-001482	
Q0060		MEC FUNCTION KEY ASS'Y	GH75-03955A	
Q0061		PBA MAIN LCD	GH92-01549A	
Q0062		UNIT F PCB	GH41-00539A	

3. Test Jig [GH80-00865A]



3-1. RF Test Cable [GH39-00090A]



3-2. Test Cable [GH39-00127A]



3-3. Serial Cable



3-4. Power Supply Cable



3-5. DATA CABLE [GH39-00159A]



3-6. TA [GH44-001844A]

4. SGH-D410 MAIN Electrical Parts List

1.Main Parts List

SEC Code	Design LOC
GH92-01550A	
0403-001387	ZD305
0403-001427	ZD304
0404-001172	D101
0404-001172	D201
0406-001084	ZD301
0406-001084	ZD302
0406-001084	ZD303
0406-001150	ZD402
0406-001150	ZD403
0406-001190	ZD201
0406-001190	ZD202
0501-000225	Q401
0501-000729	Q201
0501-002427	Q101
0504-000168	Q103
0504-000168	Q104
0504-001042	U702
0504-001042	U703
0504-001042	U704
0506-001052	Q102
0601-001790	LED201
0601-001790	LED202
0601-001790	LED203
0601-001790	LED204
0601-001790	LED206
0601-001790	LED207
0601-001790	LED208
0601-001790	LED209
0601-001790	LED211
0601-001790	LED212
0604-001261	LED217
0904-001784	U502
1001-001183	U401
1009-001010	U202
1109-001281	U500

SEC Code	Design LOC
1201-001889	U1001
1203-002127	U101
1203-002236	U501
1203-002542	U203
1203-002902	U102
1204-001984	U701
1204-002138	U402
1205-002185	U901
1205-002268	U902
1209-001219	U602
1209-001434	U903
1405-001019	V301
1405-001082	V201
1405-001082	V202
2007-000138	R804
2007-000140	R110
2007-000140	R213
2007-000140	R304
2007-000140	R305
2007-000140	R306
2007-000140	R307
2007-000140	R308
2007-000140	R309
2007-000140	R310
2007-000140	R312
2007-000140	R313
2007-000140	R420
2007-000141	R415
2007-000143	R413
2007-000147	R408
2007-000148	R112
2007-000148	R416
2007-000148	R423
2007-000148	R520
2007-000148	R602
2007-000149	R426
2007-000157	R216

SEC Code	Design LOC
2007-000157	R217
2007-000157	R301
2007-000157	R302
2007-000157	R303
2007-000157	R504
2007-000157	R601
2007-000157	R605
2007-000157	R610
2007-000159	R407
2007-000159	R418
2007-000161	R405
2007-000161	R411
2007-000162	R402
2007-000162	R511
2007-000162	R512
2007-000162	R609
2007-000162	R701
2007-000162	R704
2007-000162	R705
2007-000164	R404
2007-000170	R603
2007-000171	R102
2007-000171	R412
2007-000171	R422
2007-000171	R424
2007-000171	R506
2007-000171	R507
2007-000171	R508
2007-000171	R510
2007-000171	R514
2007-000171	R516
2007-000171	R518
2007-000171	R519
2007-000171	R799
2007-000172	R503
2007-000172	R801
2007-000758	R106

SEC Code	Design LOC
2007-000775	R406
2007-001119	R414
2007-001288	R1001
2007-001288	R1005
2007-001291	R214
2007-001307	R1002
2007-001307	R1006
2007-001319	R111
2007-001319	R803
2007-001320	R802
2007-001323	R104
2007-001325	R410
2007-001333	R419
2007-003010	R201
2007-003010	R202
2007-003010	R203
2007-003010	R204
2007-003010	R206
2007-003010	R207
2007-003010	R208
2007-003010	R209
2007-003010	R211
2007-003010	R212
2007-003112	R401
2007-003112	R403
2007-007008	R1003
2007-007008	R1004
2007-007008	R1007
2007-007008	R1008
2007-007107	R1009
2007-007139	R103
2007-007142	R606
2007-007200	R702
2007-007200	R703
2007-007308	R607
2007-007308	R608
2203-000233	C1004

SEC Code	Design LOC
2203-000233	C1007
2203-000233	C1010
2203-000233	C118
2203-000233	C908
2203-000233	C910
2203-000254	C504
2203-000254	C505
2203-000254	C603
2203-000254	C604
2203-000254	C605
2203-000254	C606
2203-000254	C611
2203-000254	C707
2203-000254	C710
2203-000254	C711
2203-000254	C712
2203-000254	C801
2203-000254	C803
2203-000254	C804
2203-000254	C805
2203-000254	C806
2203-000254	C807
2203-000359	C401
2203-000359	C431
2203-000359	C432
2203-000438	C1018
2203-000438	C416
2203-000438	C425
2203-000438	C426
2203-000438	C802
2203-000550	C511
2203-000628	C613
2203-000628	C615
2203-000654	C424
2203-000679	C610
2203-000812	C101
2203-000812	C1014

SEC Code	Design LOC
2203-000812	C1016
2203-000812	C1019
2203-000812	C1020
2203-000812	C104
2203-000812	C105
2203-000812	C305
2203-000812	C427
2203-000812	C906
2203-000885	C408
2203-000995	C1002
2203-000995	C1003
2203-000995	C1015
2203-000995	C406
2203-000995	C407
2203-000995	C904
2203-001405	C121
2203-001405	C403
2203-001405	C609
2203-001405	C905
2203-001405	C907
2203-001405	C909
2203-001405	C911
2203-001405	C912
2203-001405	C913
2203-001405	C914
2203-001405	C915
2203-001412	C415
2203-001598	C103
2203-002668	C1001
2203-005061	C102
2203-005061	C239
2203-005061	C240
2203-005061	C301
2203-005061	C302
2203-005061	C303
2203-005061	C304
2203-005061	C402

SEC Code	Design LOC
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2203-005061	C409
2203-005061	C417
2203-005061	C501
2203-005061	C502
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2203-005061	C507
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2203-005061	C608
2203-005061	C706
2203-005065	C410
2203-005065	C423
2203-005065	C705
2203-005234	C1008
2203-005234	C1009
2203-005288	C1005
2203-005288	C1006
2203-005288	C1012
2203-005288	C1013
2203-005480	C607
2203-005480	C708
2203-005480	C709
2203-005482	C108
2203-005496	C601
2203-005496	C602
2203-005496	C704
2203-005509	C237
2203-005509	C238
2203-005509	C614
2203-005509	C716
2203-005509	C717
2203-005509	C718
2203-005509	C799

SEC Code	Design LOC
2203-006053	C109
2203-006053	C110
2203-006053	C111
2203-006053	C112
2203-006053	C113
2203-006053	C114
2203-006053	C116
2203-006053	C117
2203-006053	C119
2203-006053	C120
2203-006137	C430
2404-001086	C405
2404-001086	C413
2404-001105	C106
2404-001105	C202
2404-001105	C203
2404-001151	C1017
2404-001151	C1021
2404-001151	C1022
2404-001151	C420
2404-001151	C508
2404-001268	C107
2703-001513	L402
2703-001513	L403
2703-001724	L1002
2703-001751	L901
2703-001990	L1009
2703-002484	L1004
2703-002484	L1006
2703-002485	L1003
2801-003747	OSC601
2809-001260	OSC801
2901-001260	F201
2901-001260	F202
2901-001260	F203
2901-001260	F204
2901-001260	F205

SEC Code	Design LOC
2901-001260	F207
2904-001410	F1002
2909-001191	F1001
3705-001255	F1003
3708-001853	CN201
3709-001187	CN101
3710-001105	CN205
3710-001673	CN300
3722-001880	CN401
4302-001130	M101
GH09-00025A	U601
GH41-00471A	
GH71-01052A	ANT1001
GH96-01373A	
GH30-00078A	
GH59-00948A	
GH59-00950A	
GH68-02026A	
GH74-06351A	
GH74-06948A	

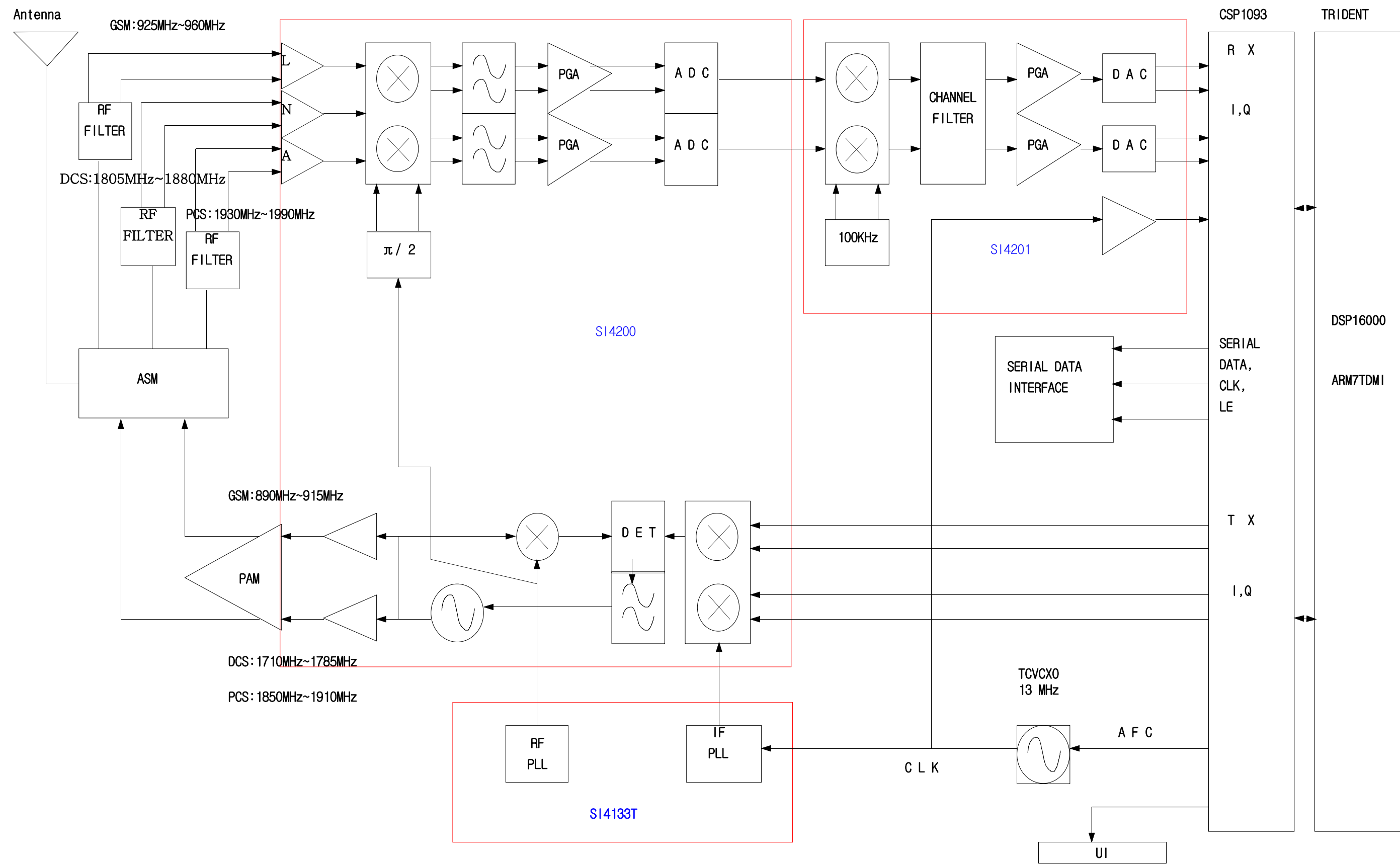
2.LCD Parts List

SEC Code	Design LOC
GH92-01549A	
0403-001446	ZD32
0404-001172	ZD31
0406-001150	ZD59
0406-001150	ZD60
0406-001190	U32
0406-001190	ZD51
0406-001190	ZD52
0406-001190	ZD53
0406-001190	ZD54
0406-001190	ZD55
0406-001190	ZD57
0406-001190	ZD58
0504-001016	Q64
0504-001113	Q61
0504-001113	Q62
0504-001113	Q63
0505-001518	Q1
0601-001654	LED61
0601-001654	LED62
0601-001790	LED51
0601-001790	LED52
0601-001790	LED53
0601-001790	LED54
1203-002633	U31
1203-002690	U33
2007-000138	R62
2007-000138	R68
2007-000140	R70
2007-000148	R35
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2007-000151	R64
2007-000151	R65
2007-000151	R66
2007-000157	R34
2007-000162	R79

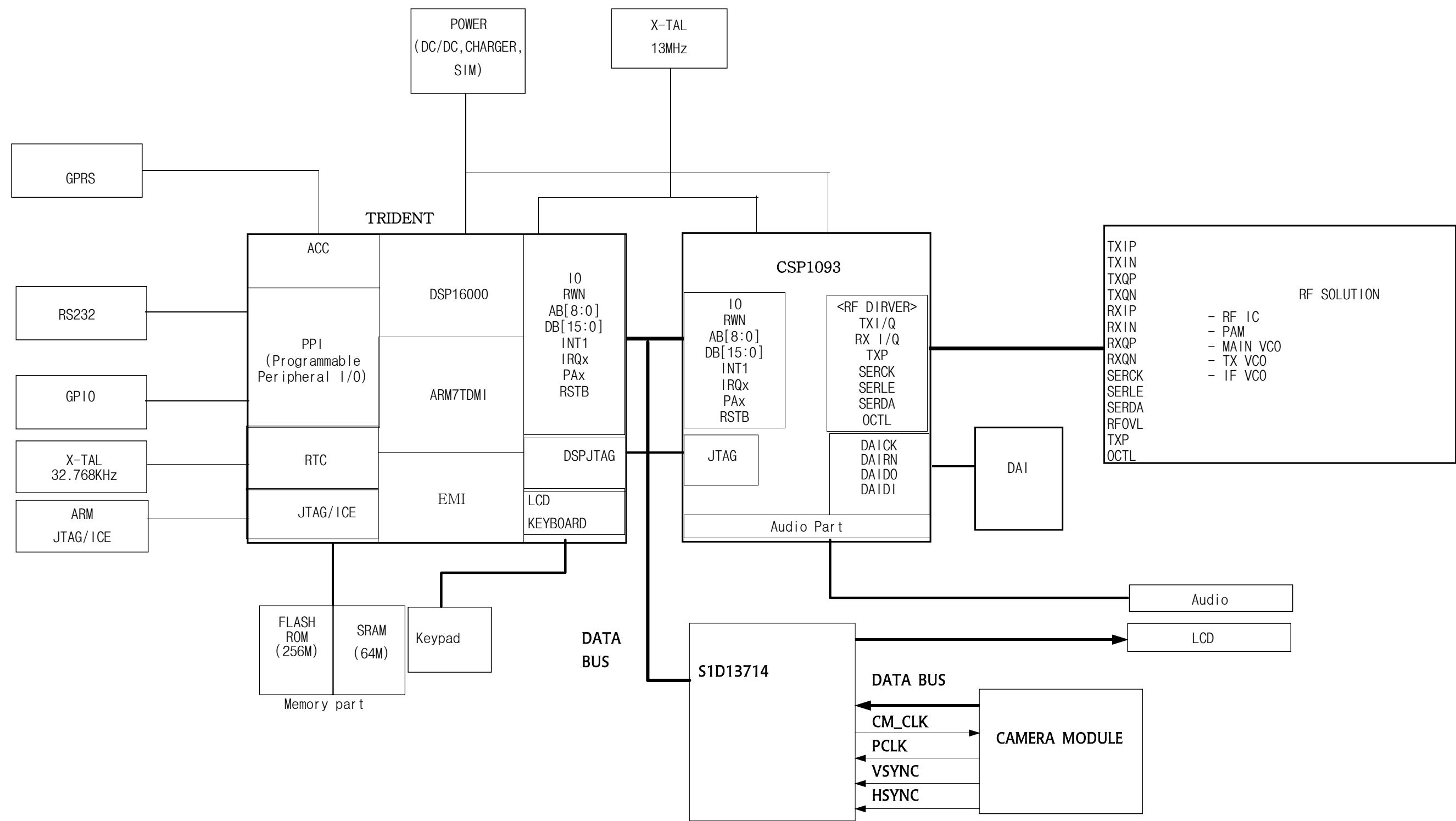
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2007-001284	R51
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2007-001284	R53
2007-001284	R54
2007-001306	R61
2007-001306	R71
2007-003010	R63
2007-003010	R69
2007-003025	R31
2007-008672	R32
2203-000550	C38
2203-000995	C61
2203-000995	C62
2203-000995	C63
2203-001598	C33
2203-002443	C34
2203-005482	C74
2203-005496	C37
2203-006053	C73
2703-002339	L31
2901-001260	F88
3708-001852	CN13
3708-001853	CN11
3708-001938	CN12
GH41-00472A	

5. SGH-D410 Block Diagrams

1. RF Solution Block Diagram



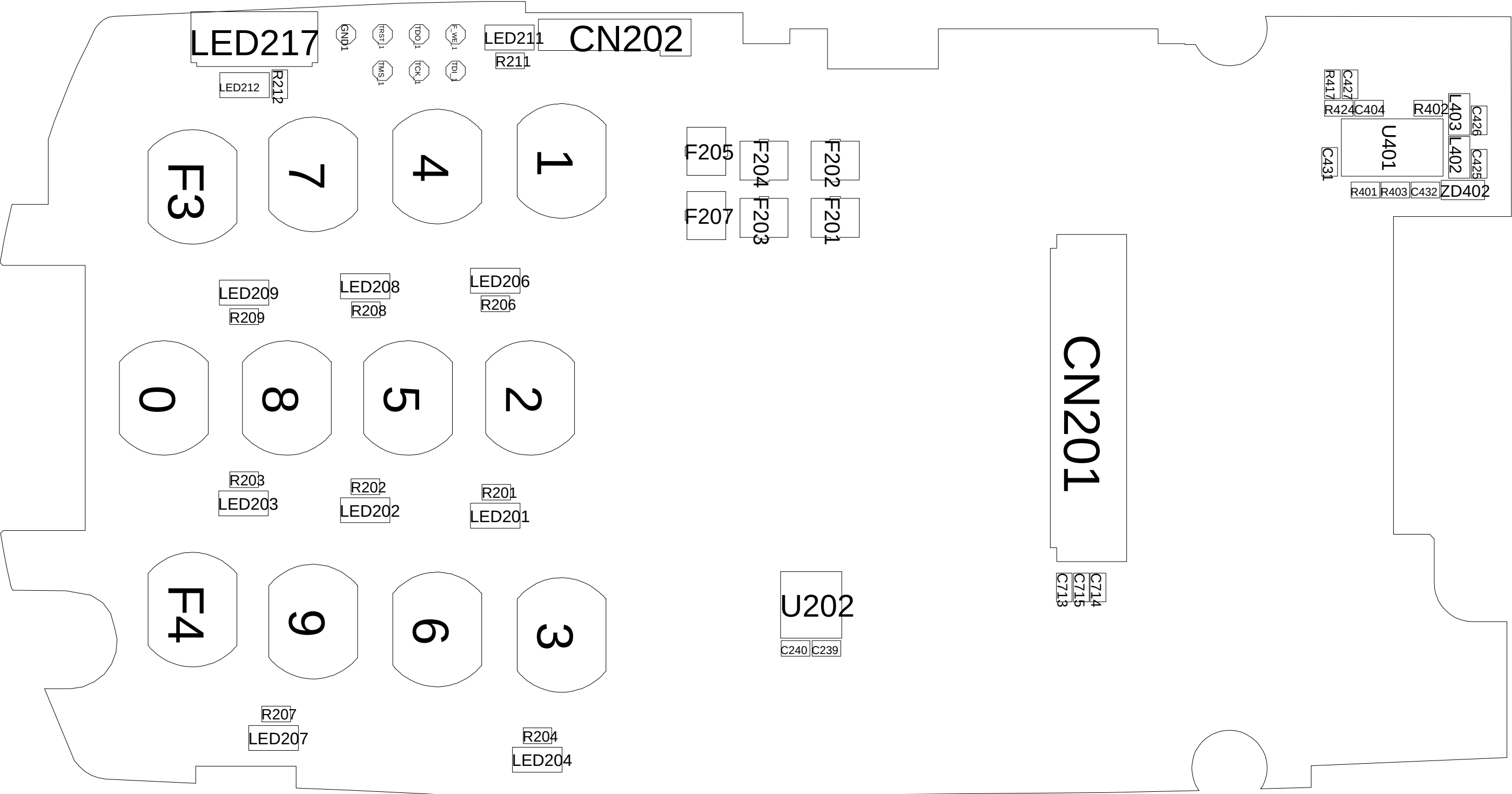
2. Base Band Solution Block Diagram



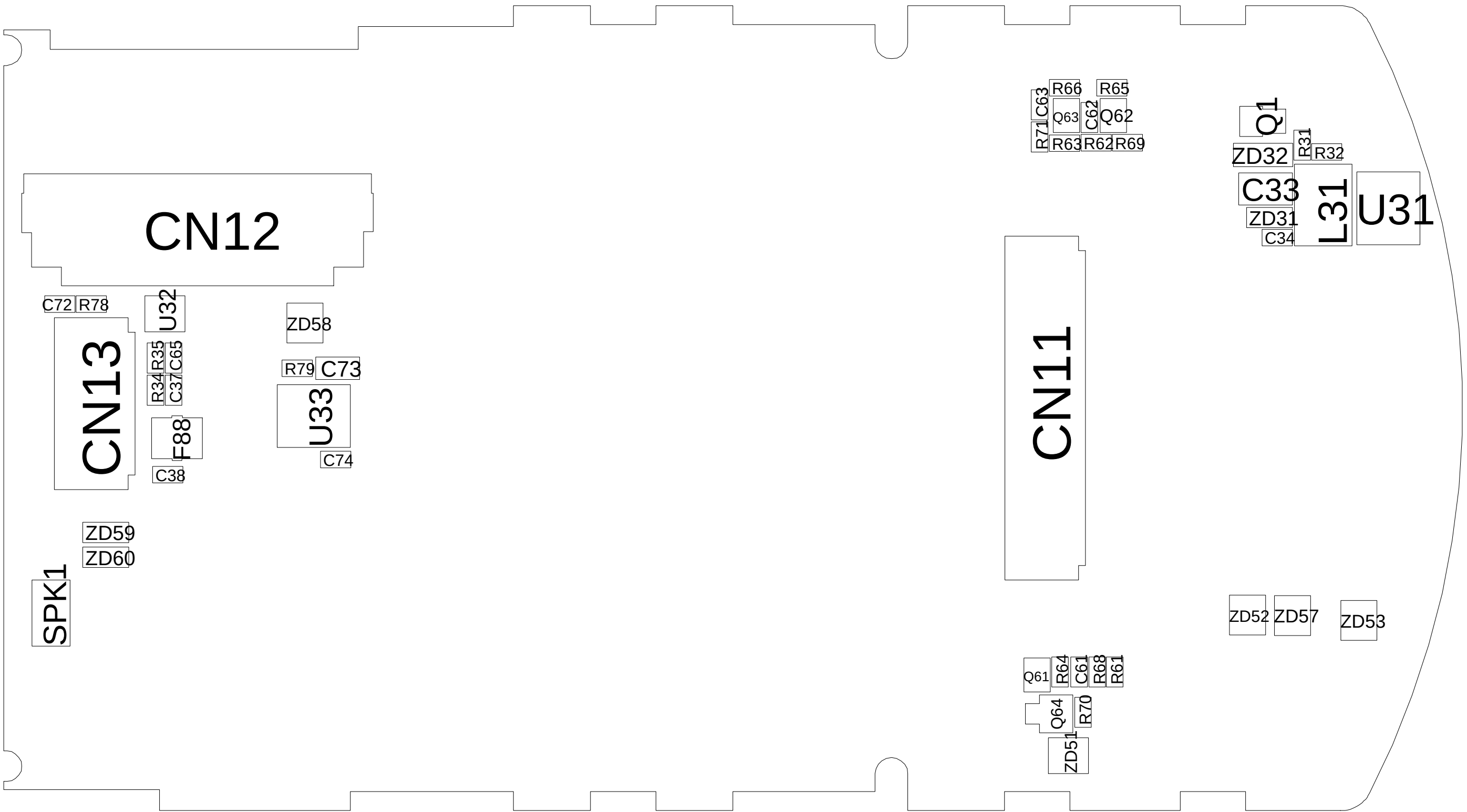
1.Main TOP Diagram



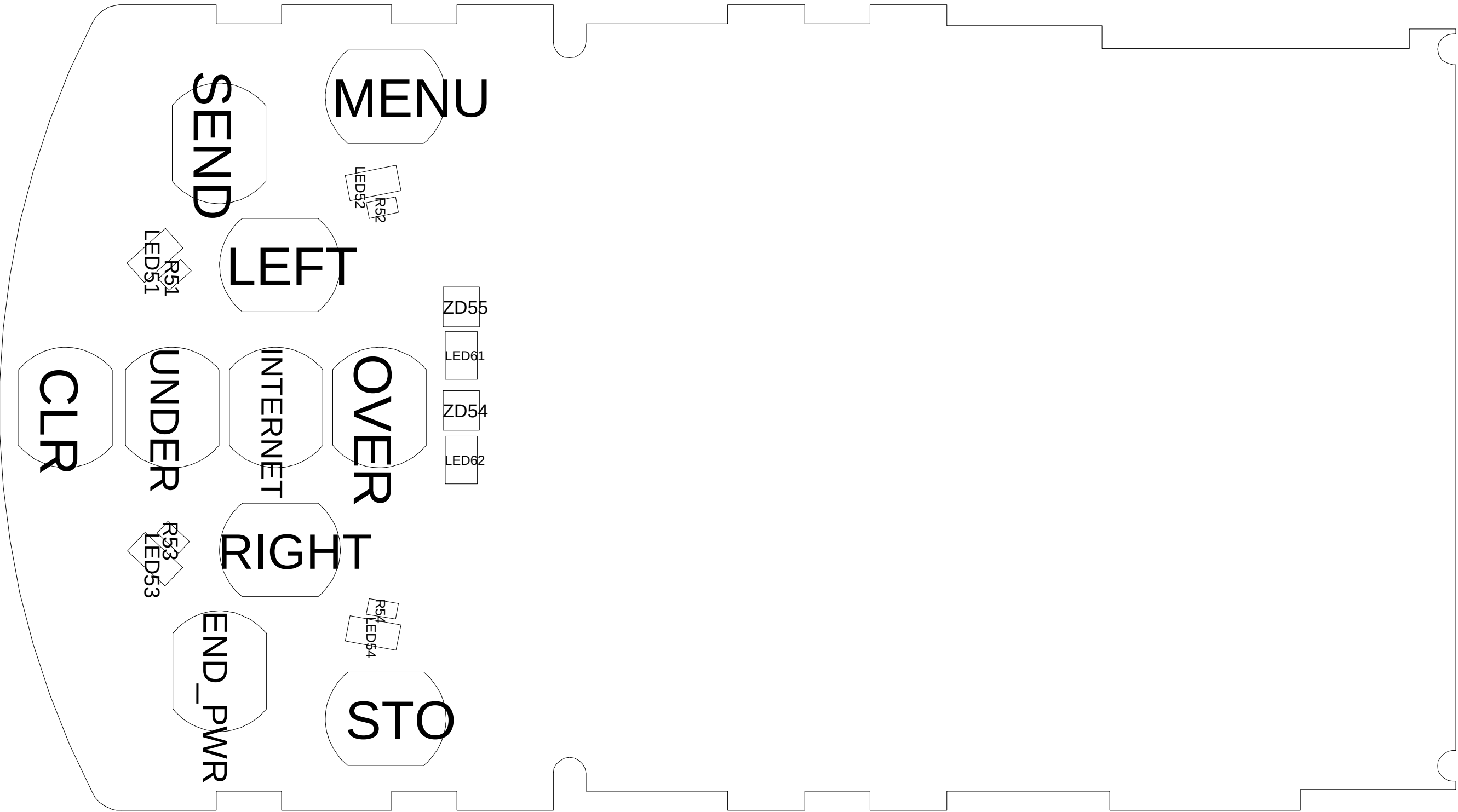
2. Main Bottom Diagram



3. LCD TOP Diagram



4. LCD Bottom Diagram





ELECTRONICS

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